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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,666	01/25/2002	Jonathan A. Nagel		4338

7590 02/03/2004  
Daniel N. Daisak  
Tyco Telecommunications (US), Inc.  
Rm 2B 106  
250 Industrial Way West  
Eatontown, NJ 07724

EXAMINER

LEE, JOHN D

ART UNIT PAPER NUMBER

2874

DATE MAILED: 02/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/057,666	<b>Applicant(s)</b> NAGEL, JONATHAN A.	
	<b>Examiner</b> John D. Lee	<b>Art Unit</b> 2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
     a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                            | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>1103</u> . | 6) <input type="checkbox"/> Other: _____                                    |

Applicant's communication filed on November 7, 2003, has been carefully studied by the Examiner. The arguments advanced therein, considered together with the amendments made to the claims, are persuasive and the rejections set forth in the previous Office action (all based on the Delavaux et al reference) are withdrawn. In view of consideration of the prior art newly submitted by applicant, however, a new rejection is set forth below. This action is **not** made final.

New corrected drawings are required in response to this Office action because the original drawings are informal and have hand written numerals. This requirement was first made in the previous Office action. **The corrected drawings are required in reply hereto in order to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.**

Claims 1, 16, and 17 are objected to for the following minor informalities. In lines 3 and 9 of amended claim 1, the word "a" should be deleted after "having". In line 1 of both claims 16 and 17, the word "pump" should be inserted after "second". Appropriate correction is required.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,101,025 to Naganuma (newly cited). Naganuma discloses an optical amplifier apparatus for amplifying bi-directional transmission signals, the apparatus

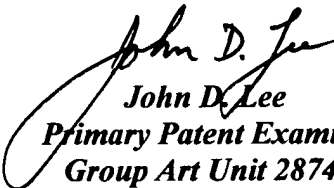
comprising first and second amplifying fiber segments for respectively amplifying first and second light signals, first and second optical pump sources respectively coupled to the first and second amplifying fiber segments by optical couplers, and additional optical coupling means forming a bi-directional optical connection so that a portion of pump power remaining after propagation through the first amplifying fiber segment is supplied to the second amplifying fiber segment and a portion of pump power remaining after propagation through the second amplifying fiber segment is supplied to the first amplifying fiber segment. See, for example, claims 7-11 of Naganuma. It thus appears that Naganuma discloses the same fault tolerant optical amplifier apparatus being claimed except for the specification of “first set of transmission signals” and “second set of transmission signals”. As already mentioned, Naganuma specifies “first light signal” and “second light signal”. The first and second light signals of Naganuma are clearly distinct, one from the other, however, and are individually amplified in the apparatus. To the person of ordinary skill in the art, there would be no essential difference in specifying that the first light signal of Naganuma is actually a first “set” of light signals, and that the second light signal of Naganuma is actually a second “set” of light signals. The apparatus would operate in exactly the same fashion and achieve exactly the same result. The claimed amplifier apparatus would thus have been obvious, at the time of the invention, to a person of ordinary skill in the art in view of the disclosure of Naganuma. Variations in the directionality of the first and second pump powers, with respect to the first and second light signals, in order to tweak the characteristics of the Naganuma device, would also have been obvious. That is, it would have been obvious to have the pump power and light signal either co-propagate or counter-propagate in either the first

or the second amplifying fiber segment. Naganuma does not explicitly state the use of a feedback control mechanism. However, using a feedback circuit to control pump power is well known in the art of optical fiber amplifiers. Therefore, one of ordinary skill in the art would have recognized the advantages of adding a feedback control circuit to the amplifying fiber segments of Naganuma in order to control the pump power.

Applicant's arguments filed November 7, 2003, have been fully considered but are moot in view of the new grounds of rejection.

Both of the prior art documents listed by applicant in the Information Disclosure Statement filed on November 7, 2003, have been fully considered and made of record. Note the attached initialed copy of form PTO-1449. Note that one of these documents is the U.S. Patent to Naganuma, now relied on for rejection of the pending claims.

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (571) 272-2351. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (703) 308-0956, to the technical support staff supervisor (Team 2) at telephone number (571) 272-1615, or to the Technology Center 2800 Customer Service Office at telephone number (571) 272-1626.

  
**John D. Lee**  
**Primary Patent Examiner**  
**Group Art Unit 2874**